

NAME _____ DATE _____ SCORE _____

ALL WORK SHOULD BE
ON SEPARATE PAPER

Functions

Due Tuesday 10/1

Evaluate each of the following functions at $x = -2$.

#1-22
All

1. $f(x) = 3x + 1$ _____

2. $g(x) = 3x^2$ _____

3. $s(x) = x - |x|$ _____

4. $r(x) = \frac{x - 5}{x^2}$ _____

5. $y(y(x))$, where $y(x) = x^2 - 1$ _____

6. $t(x) = 3x^2 + 5x + 3$ _____

Give the domain of each function.

7. $a(x) = 5x - 1$ _____

8. $k(x) = |x|$ _____

9. $c(x) = \frac{5}{x - 3}$ _____

10. $m(x) = \sqrt{3x}$ _____

11. $e(x) = \frac{3x}{(x - 1)(x - 2)}$ _____

12. $b(x) = \sqrt{2x + 6}$ _____

Give the range of each function with the given domain.

13. $d(x) = 5 - 2x$, $D = \{-1, 0, 1\}$ _____

14. $h(x) = 2x^2 + 1$, $D = \{0, 1, 2\}$ _____

15. $j(x) = x^3$, $D = \{-2, -1, 0, 1\}$ _____

16. $n(x) = \sqrt{x}$, $D = \{0, 1, 4, 9\}$ _____

17. $u(x) = x^4$, $D = \{-2, -1, 0, 1\}$ _____

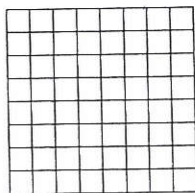
18. $p(x) = |x + 3|$, $D = \{-5, -3, -1, 1\}$ _____

19. $w(y) = |y| + 3$, $D = \{-1, 0, 1, 2\}$ _____

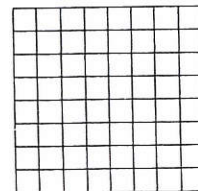
20. $z(c) = 3c^2 - 5c + 2$, $D = \{-1, 0, 1, 2\}$ _____

Graph the functions p and w from items 18 and 19 above.

21. Graph of
function p
from item 18



22. Graph of
function w
from item 19



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#1-12 All

Linear Functions

Find an equation of the linear function with the following slope and function value.

1. $m = 3, f(1) = 5$ _____

2. $m = 5, g(0) = 0$ _____

3. $m = 0, h(3) = 7$ _____

4. $m = \frac{1}{2}, r(4) = 0$ _____

5. $m = \frac{3}{5}, s(5) = 4$ _____

6. $m = \frac{2}{3}, t(1) = 1$ _____

7. $m = -\frac{1}{4}, a(4) = 0$ _____

8. $m = -\frac{2}{3}, f(-6) = -1$ _____

Find the third value, given two values for each linear function.

9. $f(1) = -1; f(3) = 3; f(-1) = ?$ _____

10. $g(-1) = 7; g(2) = 1; g(-2) = ?$ _____

11. $h(0) = -1; h(5) = 1; h(-5) = ?$ _____

12. $r(3) = 9; r(\frac{1}{2}) = 9; r(-1) = ?$ _____